

Attorney Docket: 040045-0357801

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re PATENT APPLICATION of: KLAUS PFIZENMAIER, et al.

Application No.: 10/594,189

Confirmation Number: 7771

Filed: July 13, 2007

Group Art Unit: 1647

Examiner: Bunner, Bridget E.

Title: RECOMBINANT POLYPEPTIDES OF THE MEMBERS OF THE TNF LIGAND  
FAMILY AND USE THEREOF

**DECLARATION UNDER 37 C.F.R. § 1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir: I, LARRY WIESE, Ph.D., do hereby declare and state as follows:

1. I am a resident of San Diego, California, USA. My correspondence address is: 10225 Barnes Canyon Rd. A107, San Diego, California 92121. I received a Bachelor of Science degree in Physics from UCLA. I received a Doctor of Science degree in Physics from Ohio State University.
2. I am the founder and am currently the President of Therapheresis, Inc. Therapheresis, Inc. is the licensee of United States Patent Application Serial No. 10/594,189.
3. I oversee the design, development and testing of filter devices for the treatment of cancer, which incorporate recombinant proteins, and are the subject matter of United States Patent Application Serial No. 10/594,189.
4. I have reviewed the Office Action issued in connection with United States Patent Application Serial No. 10/594,189.

5. I understand that the Examiner has rejected claims 28 to 45 under 35 U.S.C. §112, first paragraph, due to an alleged lack of enablement and adequate written description.

6. I submit this Declaration to refer to studies and data in accompanying Exhibit A, as evidence that a single chain tumor necrosis factor (scTNF) comprising three TNF monomers linked together by two peptide linkers and immobilized to the surface of microporous beads performs as claimed.

7. Under my direction, Dr. Stephen Josephs, an employee of Therapheresis, Inc, having the title of Director of Binding Protein and Process Development, performed an evaluation of the filter devices incorporating immobilized recombinant human scTNF. Attached is the curriculum vitae of Dr. Josephs, which reflects his expertise in the fields of molecular biology, immunology and oncology.

8. The filter device with microporous beads with immobilized scTNF was analyzed for the removal/depletion of tumor necrosis factor receptor (TNFR).

9. First, serum or PBS spiked with TNFR was passed through the filter device. The TNFR in the serum or PBS binds to the coupled scTNF immobilized on the surface of the microporous beads in the filter device. This, in turn, leads to removal/depletion of TNFR from serum and from PBS.

10. Exhibit A shows the removal/depletion of TNFR from the serum and PBS after two dogs were previously treated with the filter devices. As illustrated in Exhibit A, the two filter devices significantly removed/depleted TNFR from the serum and PBS, by about 90%.

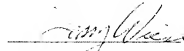
11. The forgoing studies and accompanying Exhibit A therefore demonstrate that the immobilized scTNF removes/depletes TNFR as claimed.

12. I therefore conclude that the filter device recited in the claims functions as claimed.

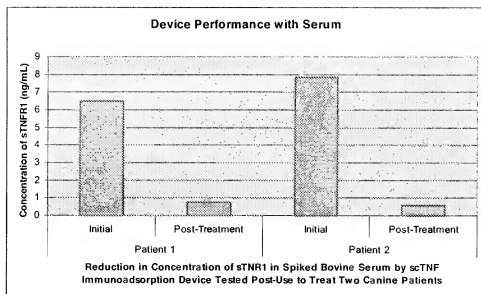
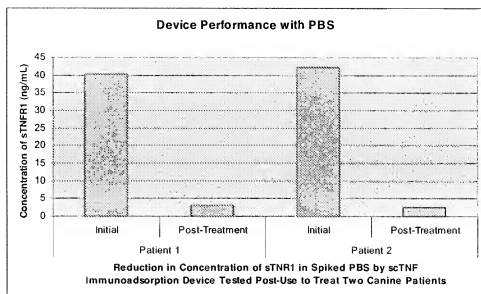
13. I further declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true,

and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both (18 U.S.C. §1001), and may jeopardize the validity of the application or any patent issued thereon.

Sept. 22, 2011  
Date

  
Larry Wiese, Ph.D.

## EXHIBIT A



The figures above demonstrate the ability of two filter devices constructed with single chain tumor necrosis factor (scTNF) covalently immobilized to the surface of 60 micron microporous beads to remove/deplete human soluble TNF receptors (sTNFR1) in spiked phosphate buffered saline (PBS) and bovine serum. Prior to the study, both filter devices had been used to treat two canine cancer patients. The data shows that the filter devices still retained the ability to remove/deplete soluble TNFR, by approximately, 90% at flow rates comparable to those used during treatment.

## **Steven F. Josephs, Ph.D.**

Email: sjosephs@therapheresis.com

Cell: 858.663.9693

### **Professional Summary**

**Director, Binding Protein and Process Development**  
Therapheresis, Inc., San Diego, CA

**2005-Present**

Headed the Manufacturing of Small Molecule Therapeutics responsible for contract fill and finish of formulated anti-proliferative ribozyme under clinical investigation for the treatment of psoriasis, hypertrophic scars and keloids. Wrote batch records, monitored release testing.

**Associate Director, Pre-Clinical Product Development**  
Immusol Inc., San Diego, CA

**2003-2005**

Head of Manufacturing of Small Molecule Therapeutics

Significant achievements:

- 1) Responsible for contract fill and finish of formulated antiproliferative ribozyme under clinical investigation for the treatment of psoriasis, hypertrophic scars and keloids. Wrote batch records, monitored release testing.
- 2) Design and contracting of pre-clinical safety and efficacy studies. Mouse, rat and minipig studies to support ongoing and planned clinical trials.
- 3) Formulation development of small molecule lead drugs. Developed three clinically relevant formulations for small molecule drug. HPLC purification and formulation of small molecules for pre-clinical animal studies.
- 4) Responsible for CMC section of IND regulatory submissions

**Director, Process Development**  
Genstar Therapeutics, San Diego, CA

**1998-2002**

Directed a group of four process development scientists to develop manufacturing processes for gutted adenovirus vectors for I.V. delivery of the human FVIII gene for treatment of hemophilia A and for intra-prostatic treatment of prostate cancer.

Significant achievements:

- 1) Developed and performed tests leading to qualification of a human cell line which was used for preparation of human clinical trial material.
- 2) Established a production master cell bank under cGMP conditions.
- 3) Set up a CellCube system for manufacture of adenovirus vectors using a proprietary human cell line.
- 4) Responsible for technology transfer of basic research to Phase I manufacture of clinical trial material for hemophilia A and documentation for IND submission:CMC

section.

- 5) Developed a scalable upstream manufacturing processes for adenovirus vectors using stirred tank bioreactor systems and suspension microcarrier beads.
- 6) Downstream development of chemical lysis technology for release of virus from cells and development of a rapid CsCl gradient method for purification of gutted adenoviruses.
- 7) Performed formulation studies: recovery of adenovirus from frozen storage in non-glycerol containing lyophilizable formulations. Obtained recoveries comparable to those observed using traditional glycerol containing formulations.
- 8) Developed and qualified lot release assays specific for the company adenovirus products including ELISA assays and tests for process residuals.
- 9) Participated in bringing two manufacturing facilities on line. Provided oversight of equipment validation, including reviewing/writing validation protocols, IQ, OQ and PQ. Compilation of data and writing validation reports.

**Senior Research Scientist**  
**Baxter Healthcare Corporation, Round Lake, IL**

**1991-1998**

Head of Virology Research in the Applied Sciences Group—performed internal contract research in viral validation studies and product development support for I.V. Systems, Hyland and Fenwal and Applied Sciences. Conducted research and development for manufacture of products related to treatment of hemophilia; Key role of this position was to construct an expression vector system for gene therapy of hemophilia A

Significant achievements:

- 1) Cloned and characterized a functional human FVIII cDNA
- 2) Generated a novel cell line for complementation of E1 deficient adenovirus vectors
- 3) Developed a gutted adenovirus vector capable of delivering a functional human FVIII cDNA by intravenous administration

**Director, Molecular Biology**  
**Universal Biotechnology, Inc., Rockville, MD**

**1990-1991**

Directed a group performing contract molecular biology services for government and private industry. Services included protein expression and purification, restriction enzyme mapping and gene characterization, molecular cloning and lambda phage library screening. Manufactured prototype molecular biology kits in collaboration with international vendors. Interfaced with clients for contracts, deliverables and reports.

**Chemist**  
**National Cancer Institute, National Institutes of Health, Bethesda, MD**

**1975-1990**

Significant Achievements:

- 1) Characterization of oncogenes: Genetic comparison of the Simian Sarcoma Virus v-sis gene to the human homologue, platelet derived growth factor (PDGF) and demonstration of the transforming potential of the normal human gene
- 2) Studies of the human T-cell leukemia virus—genetic characterization
- 3) Sequence determination and functional analyses of HIV including defining the tat gene and generation of functional clones of HIV
- 4) Co-discoverer of Human Herpesvirus 6 (HHV-6), the etiologic agent of Roseola; molecular characterization studies

## Education

|  |      |
|--|------|
| Ph.D., Chemistry, The American University<br>Thesis in Molecular Biology (Post Speciation Acquisition of Endogenous Viruses related to BaEV in Old World Primates) | 1982 |
| M.S.S.T., Science Teaching, The American University  | 1977 |
| B.A., Chemistry, Susquehanna University  | 1972 |
| Licensed Board of Pharmacy Exemptee-In-Charge  | 2005 |

## Honors and Special Scientific Recognition:

|   |           |
|---|-----------|
| Aikens Chemistry Scholarship  | 1973-1974 |
| Honorary Mathematics Society, Susquehanna Univ.   | 1973      |
| Certificate for sustained high quality work performance,<br>National Institutes of Health, Bethesda, MD | 1978      |
| Outstanding Young Men of America  | 1985      |
| Special achievement award,<br>National Institutes of Health, Bethesda, MD                               | 1986      |
| Award for outstanding work performance,<br>National Institutes of Health, Bethesda, MD                  | 1989      |
| Member, New York Academy of Sciences  | 1988-1991 |
| Member, Scientific Advisory Board, AIDS and<br>Cancer Research Foundation, Beverly Hills, CA            | 1988      |
| Letter of Commendation, GenStar Therapeutics<br>Management Contributions                                | 2002      |

## Publications

Balague C, Zhou J, Dai Y, Alemany R, Josephs SF, Andreason G, Hariharan M, Sethi E, Prokopenko E, Jan HY, Lou YC, Hubert-Leslie D, Ruiz L, Zhang WW. Sustained high-level expression of full-length human factor VIII and restoration of clotting activity in hemophilic mice using a minimal adenovirus vector. *Blood*. 2000 Feb 1;95(3):820-8.

Zhang WW, Josephs SF, Zhou J, Fang X, Alemany R, Balague C, Dai Y, Ayares D, Prokopenko E, Lou YC, Sethi E, Hubert-Leslie D, Kennedy M, Ruiz L, Rockow-Magnone S. Development and application of a minimal-adenoviral vector system for gene therapy of hemophilia A. *Thromb Haemost*. 1999 Aug;82(2):562-71. Review.

Josephs SF, Loudovaris T, Dixit A, Young SK, Johnson RC. In vivo delivery of recombinant human growth hormone from genetically engineered human fibroblasts implanted within Baxter immunoisolation devices. *J Mol Med*. 1999 Jan;77(1):211-4.

Alemany R, Dai Y, Lou YC, Sethi E, Prokopenko E, Josephs SF, Zhang WW. Complementation of helper-dependent adenoviral vectors: size effects and titer fluctuations. *J Virol Methods*. 1997 Nov;68(2):147-59.

Chang KS, Hsu ML, Josephs SF. Regulation of HIV-1 LTR trans-activating activities in two different human hepatocellular carcinoma cell lines. *Cancer Lett*. 1993 Oct 15;74(1-2):75-83.

Geng YQ, Chandran B, Josephs SF, Wood C. Identification and characterization of a human herpesvirus 6 gene segment that trans activates the human immunodeficiency virus type 1 promoter. *J Virol*. 1992 Mar;66(3):1564-70.

Chang KS, Liu WT, Josephs SF. Regulation of cellular trans-activating activities in two different promonocytic leukemia cell lines. *Cancer Lett*. 1991 Oct;60(1):75-83.

Josephs SF, Ablashi DV, Salahuddin SZ, Jagodzinski LL, Wong-Staal F, Gallo RC. Identification of the human herpesvirus 6 glycoprotein H and putative large tegument protein genes. *J Virol*. 1991 Oct;65(10):5597-604.

Ablashi DV, Balachandran N, Josephs SF, Hung CL, Krueger GR, Kramarsky B, Salahuddin SZ, Gallo RC. Genomic polymorphism, growth properties, and immunologic variations in human herpesvirus-6 isolates. *Virology*. 1991 Oct;184(2):545-52.



Borellini F, He YF, Aquino A, Yu G, Josephs SF, Glazer RI. Increased DNA binding and transcriptional activity associated with transcription factor Sp1 in K562 cells transfected with the myeloid-specific c-fes tyrosine kinase gene. *J Biol Chem.* 1991 Aug 25;266(24):15850-4.

Horvat RT, Wood C, Josephs SF, Balachandran N. Transactivation of the human immunodeficiency virus promoter by human herpesvirus 6 (HHV-6) strains GS and Z-29 in primary human T lymphocytes and identification of transactivating HHV-6(GS) gene fragments. *J Virol.* 1991 Jun;65(6):2895-902.

Josephs SF, Henry B, Balachandran N, Strayer D, Peterson D, Komaroff AL, Ablashi DV. HHV-6 reactivation in chronic fatigue syndrome. *Lancet.* 1991 Jun 1;337(8753):1346-7.

Krueger GR, Ablashi DV, Josephs SF, Salahuddin SZ, Lembke U, Ramon A, Bertram G. Clinical indications and diagnostic techniques of human herpesvirus-6 (HHV-6) infection. *In Vivo.* 1991 May-Jun;5(3):287-95. Review.

Ablashi DV, Salahuddin SZ, Josephs SF, Balachandran N, Krueger GR, Gallo RC. Human herpesvirus-6 (HHV-6) (short review). *In Vivo.* 1991 May-Jun;5(3):193-9. Review.

Krueger GR, Ablashi DV, Lusso P, Josephs SF. Immunological dysregulation of lymph nodes in AIDS patients. *Curr Top Pathol.* 1991;84 ( Pt 2):157-88. Review.

Ablashi DV, Zampetta C, Lease C, Josephs SF, Balachandra N, Komaroff AL, Krueger GR, Henry B, Lukau J, Salahuddin SZ. Human herpesvirus 6 (HHV6) and chronic fatigue syndrome (CFS). *Can Dis Wkly Rep.* 1991 Jan;17 Suppl 1E:33-40. Review.

Krueger GR, Wassermann K, De Clerck LS, Stevens WJ, Bourgeois N, Ablashi DV, Josephs SF, Balachandran N. Latent herpesvirus-6 in salivary and bronchial glands. *Lancet.* 1990 Nov 17;336(8725):1255-6.

Borellini F, Aquino A, Josephs SF, Glazer RI. Increased expression and DNA-binding activity of transcription factor Sp1 in doxorubicin-resistant HL-60 leukemia cells. *Mol Cell Biol.* 1990 Oct;10(10):5541-7.

Zagury JF, Josephs SF, Agius G, Nicol I, Willer A, Kalyanaraman VS, Zagury D, Wong-Staal F, Gallo RC. In vitro characterization of a biologically active molecular clone of HIV-2NIH-Z containing a nef deletion and expressing a full-

length transmembrane protein. *AIDS Res Hum Retroviruses*. 1990 Sep;6(9):1079-85.

Jarrett RF, Clark DA, Josephs SF, Onions DE. Detection of human herpesvirus-6 DNA in peripheral blood and saliva. *J Med Virol*. 1990 Sep;32(1):73-6.

Okamoto T, Benter T, Josephs SF, Sadaie MR, Wong-Staal F. Transcriptional activation from the long-terminal repeat of human immunodeficiency virus in vitro.

*Virology*. 1990 Aug;177(2):606-14.

Madea B, Roewert HJ, Krueger GR, Ablashi DV, Josephs SF. Search for early lesions following human immunodeficiency virus type 1 infection. A study of six individuals who died a violent death after seroconversion.

*Arch Pathol Lab Med*. 1990 Apr;114(4):379-82.

Ensign B, Lusso P, Schachter F, Josephs SF, Rappaport J, Negro F, Gallo RC, Wong-Staal F. Human herpes virus-6 increases HIV-1 expression in co-infected T cells via nuclear factors binding to the HIV-1 enhancer.

*EMBO J*. 1989 Oct;8(10):3019-27.

Kikuta H, Lu H, Matsumoto S, Josephs SF, Gallo RC. Polymorphism of human herpesvirus 6 DNA from five Japanese patients with exanthem subitum.

*J Infect Dis*. 1989 Sep;160(3):550-1.

Okamoto T, Matsuyama T, Mori S, Hamamoto Y, Kobayashi N, Yamamoto N, Josephs SF, Wong-Staal F, Shimotohno K. Augmentation of human immunodeficiency virus type 1 gene expression by tumor necrosis factor alpha.

*AIDS Res Hum Retroviruses*. 1989 Apr;5(2):131-8.

Jahan N, Razzaque A, Greenspan J, Conant MA, Josephs SF, Nakamura S, Rosenthal LJ. Analysis of human KS biopsies and cloned cell lines for cytomegalovirus, HIV-1, and other selected DNA virus sequences.

*AIDS Res Hum Retroviruses*. 1989 Apr;5(2):225-31.

McDonald JF, Josephs SF, Wong-Staal F, Strand DJ. HIV-1 expression is posttranscriptionally repressed in *Drosophila* cells.

*AIDS Res Hum Retroviruses*. 1989 Feb;5(1):79-85.

Buchbinder A, Ablashi DV, Saxinger C, Josephs SF, Salahuddin SZ, Gallo RC, Biberfeld P, Linde A. Human herpesvirus-6 and cross-reactivity with other herpesviruses.

*Lancet*. 1989 Jan 28;1(8631):217.

Ablashi DV, Lusso P, Hung CL, Salahuddin SZ, Josephs SF, Liana T, Kramarsky B, Biberfeld P, Markham PD, Gallo RC. Utilization of human hematopoietic cell lines for the propagation and characterization of HBLV (human herpesvirus 6).

Dev Biol Stand. 1989;70:139-46.

Sadaic MR, Rappaport J, Benter T, Josephs SF, Willis R, Wong-Staal F. Missense mutations in an infectious human immunodeficiency viral genome: functional mapping of tat and identification of the rev splice acceptor. Proc Natl Acad Sci U S A. 1988 Dec;85(23):9224-8.

Kishi M, Harada H, Takahashi M, Tanaka A, Hayashi M, Nonoyama M, Josephs SF, Buchbinder A, Schachter F, Ablashi DV, et al. A repeat sequence, GGGTTA, is shared by DNA of human herpesvirus 6 and Marek's disease virus. J Virol. 1988 Dec;62(12):4824-7.

Ablashi DV, Lusso P, Hung CL, Salahuddin SZ, Josephs SF, Ljana T, Kramarsky B, Biberfeld P, Markham PD, Gallo RC. Utilization of human hematopoietic cell lines for the propagation and characterization of HBLV (human herpesvirus 6). Int J Cancer. 1988 Nov 15;42(5):787-91.

Josephs SF, Schlar L, Ablashi DV, Saxinger WC, Streicher HZ, Salahuddin SZ. HBLV is not ASFV. AIDS Res Hum Retroviruses. 1988 Oct;4(5):317-8.

Buchbinder A, Josephs SF, Ablashi D, Salahuddin SZ, Klotman ME, Manak M, Krueger GR, Wong-Staal F, Gallo RC. Polymerase chain reaction amplification and in situ hybridization for the detection of human B-lymphotropic virus. J Virol Methods. 1988 Sep;21(1-4):191-7.

Josephs SF, Ablashi DV, Salahuddin SZ, Kramarsky B, Franza BR Jr, Pellett P, Buchbinder A, Memon S, Wong-Staal F, Gallo RC. Molecular studies of HHV-6. J Virol Methods. 1988 Sep;21(1-4):179-90.

Ablashi DV, Josephs SF, Buchbinder A, Hellman K, Nakamura S, Ljana T, Lusso P, Kaplan M, Dahlberg J, Memon S, et al. Human B-lymphotropic virus (human herpesvirus-6). J Virol Methods. 1988 Sep;21(1-4):29-48. Review.

Krueger GR, Ablashi DV, Salahuddin SZ, Josephs SF. Diagnosis and differential diagnosis of progressive lymphoproliferation and malignant lymphoma in persistent active herpesvirus infection. J Virol Methods. 1988 Sep;21(1-4):255-64. Review.

Krueger GR, Koch B, Ramon A, Ablashi DV, Salahuddin SZ, Josephs SF, Streicher HZ, Gallo RC, Habermann U. Antibody prevalence to HBLV (human herpesvirus-6, HHV-6) and suggestive pathogenicity in the general population and in patients with immune deficiency syndromes. J Virol Methods. 1988 Sep;21(1-4):125-31.

Youmo J, Josephs SF, Reitz M, Zagury D, Wong-Staal F, Gallo RC. Nucleotide sequence analysis of the env gene of a new Zairian isolate of HIV-1.

AIDS Res Hum Retroviruses. 1988 Jun;4(3):165-73.

Franza BR Jr, Rauscher FJ 3rd, Josephs SF, Curran T. The Fos complex and Fos-related antigens recognize sequence elements that contain AP-1 binding sites. Science. 1988 Mar 4;239(4844):1150-3.

Josephs SF, Buchbinder A, Streicher HZ, Ablashi DV, Salahuddin SZ, Guo HG, Wong-Staal F, Cossman J, Raffield M, Sundeen J, et al. Detection of human B-lymphotropic virus (human herpesvirus 6) sequences in B cell lymphoma tissues of three patients. Leukemia. 1988 Mar;2(3):132-5.

Siekevitz M, Josephs SF, Dukovich M, Peffer N, Wong-Staal F, Greene WC. Activation of the HIV-1 LTR by T cell mitogens and the trans-activator protein of HTLV-I. Science. 1987 Dec 11;238(4833):1575-8.

Franza BR Jr, Josephs SF, Gilman MZ, Ryan W, Clarkson B. Characterization of cellular proteins recognizing the HIV enhancer using a microscale DNA-affinity precipitation assay. Nature. 1987 Nov 26-Dec 2;330(6146):391-5.

Ablashi DV, Salahuddin SZ, Josephs SF, Imam F, Lusso P, Gallo RC, Hung C, Lemp J, Markham PD. HBLV (or HHV-6) in human cell lines. Nature. 1987 Sep 17-23;329(6136):207.

Heisig V, Benter T, Josephs SF, Sadaie MR, Okamoto T, Gallo RC, Wong-Staal F. Interaction of viral and cellular factors with the HTLV-III LTR target sequences in vitro. Hamatol Bluttransfus. 1987;31:423-9.

Josephs SF, Salahuddin SZ, Ablashi DV, Schachter F, Wong-Staal F, Gallo RC. Genomic analysis of the human B-lymphotropic virus (HBLV). Science. 1986 Oct 31;234(4776):601-3.

Salahuddin SZ, Ablashi DV, Markham PD, Josephs SF, Sturzenegger S, Kaplan M, Halligan G, Biberfeld P, Wong-Staal F, Kramarsky B, et al. Isolation of a new virus, HBLV, in patients with lymphoproliferative disorders. Science. 1986 Oct 31;234(4776):596-601.

Starcich BR, Hahn BH, Shaw GM, McNeely PD, Modrow S, Wolf H, Parks ES, Parks WP, Josephs SF, Gallo RC, et al. Identification and characterization of conserved and variable regions in the envelope gene of HTLV-III/LAV, the retrovirus of AIDS. Cell. 1986 Jun 6;45(5):637-48.

Fisher AG, Feinberg MB, Josephs SF, Harper ME, Marselle LM, Reyes G, Gonda MA, Aldovini A, Debouk C, Gallo RC, et al. The trans-activator gene of HTLV-III is essential for virus replication.

Nature. 1986 Mar 27-Apr 2;320(6060):367-71.

Seigel LJ, Ratner L, Josephs SF, Derse D, Feinberg MB, Reyes GR, O'Brien SJ, Wong-Staal F. Transactivation induced by human T-lymphotropic virus type III (HTLV III) maps to a viral sequence encoding 58 amino acids and lacks tissue specificity.

Virology. 1986 Jan 15;148(1):226-31.

Ratner L, Starcich B, Josephs SF, Hahn BH, Reddy EP, Livak KJ, Petteway SR Jr, Pearson ML, Haseltine WA, Arya SK, et al. Polymorphism of the 3' open reading frame of the virus associated with the acquired immune deficiency syndrome, human T-lymphotropic virus type III.

Nucleic Acids Res. 1985 Nov 25;13(22):8219-29.

Ratner L, Josephs SF, Jarrett R, Reitz MS Jr, Wong-Staal F. Nucleotide sequence of transforming human c-sis cDNA clones with homology to platelet-derived growth factor.

Nucleic Acids Res. 1985 Jul 25;13(14):5007-18.

Arya SK, Guo C, Josephs SF, Wong-Staal F. Trans-activator gene of human T-lymphotropic virus type III (HTLV-III).

Science. 1985 Jul 5;229(4708):69-73.

Okamoto T, Josephs SF, Kawanishi M, Wong-Staal F. Determination of a splice acceptor site of pX gene in HTLV-I infected cells.

Virology. 1985 Jun;143(2):636-9.

Ratner L, Josephs SF, Starcich B, Hahn B, Shaw GM, Gallo RC, Wong-Staal F. Nucleotide sequence analysis of a variant human T-cell leukemia virus (HTLV-Ib) provirus with a deletion in pX-I.

J Virol. 1985 Jun;54(3):781-90.

Starcich B, Ratner L, Josephs SF, Okamoto T, Gallo RC, Wong-Staal F.

Characterization of long terminal repeat sequences of HTLV-III.

Science. 1985 Feb 1;227(4686):538-40.

Ratner L, Haseltine W, Patarca R, Livak KJ, Starcich B, Josephs SF, Doran ER, Rafalski JA, Whitehorn EA, Baumeister K, et al. Complete nucleotide sequence of the AIDS virus, HTLV-III. Nature. 1985 Jan 24-30;313(6000):277-84.

Ratner L, Josephs SF, Wong-Staal F. Oncogenes: their role in neoplastic transformation.

Annu Rev Microbiol. 1985;39:419-49. Review.

Josephs SF, Wong-Staal F, Manzari V, Gallo RC, Sodroski JG, Trus MD, Perkins D, Patarca R, Haseltine WA. Long terminal repeat structure of an American isolate of type 1 human T-cell leukemia virus.  
Virology. 1984 Dec;139(2):340-5.

Josephs SF, Ratner L, Clarke MF, Westin EH, Reitz MS, Wong-Staal F. Transforming potential of human c-sis nucleotide sequences encoding platelet-derived growth factor.  
Science. 1984 Aug 10;225(4662):636-9.

Trainor CD, Scott ML, Josephs SF, Fry KE, Reitz MS Jr. Nucleotide sequence of the large terminal repeat of two different strains of gibbon ape leukemia virus.  
Virology. 1984 Aug;137(1):201-5.

Clarke MF, Westin E, Schmidt D, Josephs SF, Ratner L, Wong-Staal F, Gallo RC, Reitz MS Jr. Transformation of NIH 3T3 cells by a human c-sis cDNA clone.  
Nature. 1984 Mar 29-Apr 4;308(5958):464-7.

Josephs SF, Guo C, Ratner L, Wong-Staal F. Human-proto-oncogene nucleotide sequences corresponding to the transforming region of simian sarcoma virus.  
Science. 1984 Feb 3;223(4635):487-91.

Josephs SF, Dalla-Favera R, Gelmann EP, Gallo RC, Wong-Staal F. 5' viral and human cellular sequences corresponding to the transforming gene of simian sarcoma virus.  
Science. 1983 Feb 4;219(4584):503-5.

Gelmann EP, Josephs SF, Wong-Staal F. Two strains of baboon endogenous virus demonstrate a high degree of genetic conservation.  
Gene. 1983 Jan-Feb;21(1-2):161-4.

Wong-Staal F, Dalla-Favera R, Gelmann EP, Manzari V, Szala S, Josephs SF, Gallo RC. The v-sis transforming gene of simian sarcoma virus is a new onc gene of primate origin.  
Nature. 1981 Nov 19;294(5838):273-5.

Wong-Staal F, Josephs SF. Baboon endogenous virus genomes in four species of baboons and five other genera of Old World monkeys: evidence for infection postspeciation.  
Virology. 1981 Jul 15;112(1):289-95.

Josephs SF, Wong-Staal F. Unintegrated and integrated proviruses of two strains of baboon endogenous viruses: comparative restriction endonuclease analysis.  
Virology. 1981 Jul 15;112(1):282-8.